

### REMARKS

Favorable reconsideration of this application, in light of the following discussion, is respectfully requested.

Claims 1, 4, 7, 8, 10, 53 and 55-64 are pending, with claims 1 and 57 amended, and claims 5 and 54 cancelled without prejudice or disclaimer. by the present amendment. Claim 1 is independent.

In the Official Action, claims 1, 4, 5, 10, 53, 59 and 62 were rejected under 35 U.S.C. § 103(a) as being obvious over Slater I (U.S. Patent Pub. No. 2003/0015721) in view of Huang (U.S. Patent No. 6693352) and Slater II (U.S. Patent Pub. No. 2002/0123164); claims 7-8, 54 and 62 were rejected under 35 U.S.C. § 103(a) as being obvious over Slater I in view of Huang, Slater II and Sheu (U.S. Patent Pub. No. 2003/0122147); claim 58 was rejected under 35 U.S.C. § 103(a) as being obvious over Slater I in view of Huang (U.S. Patent No. 6693352), Slater II and Kim (KR 10/226831); claim 61 was rejected under 35 U.S.C. § 103(a) as being obvious over Slater I in view of Huang, Slater II and Tamamura (U.S. Patent No. 6,084,251); and claims 63-64 were rejected under 35 U.S.C. § 103(a) as being obvious over Slater I in view of Huang, Slater II and Asami (U.S. Patent No. 5,959,401). Claims 55-57 were indicated as containing allowable subject matter.

Applicant acknowledges with appreciation the indication of allowable subject matter.

Claim 1 is amended to recite a portion of allowable claim 55 so as to recite “a first metal layer formed on the first metal-Ga compound layer, the first metal layer being a substantially pure metal layer and including Cr or V.” While some of the applied references disclose metal layers of various compositions, none of the applied references disclose or suggest Applicant’s

“first metal layer being a substantially pure metal layer and including Cr or V.” Thus, for a first reason, amended claim 1 patentably defines over the applied references.

Furthermore, contrary to the Official Action, Huang does not disclose or suggest Applicant’s claimed “high concentration GaN-based semiconductor layer formed on the second conductive semiconductor layer.” Applicant’s claimed high concentration GaN-based semiconductor layer (e.g., layer 402 of Applicant’s specification) is not a cladding layer. However, applied layer 32 of Huang is a n-type cladding layer. Thus, at best, n-type cladding layer 32 of Huang corresponds to Applicant’s claimed first conductive semiconductor layer (e.g., layer 2001 of Applicant’s specification.) The remaining applied references also fail to disclose or suggest Applicant’s high concentration GaN-based semiconductor layer formed on the second conductive semiconductor layer. Thus, for a second reason, amended claim 1 patentably defines over the applied references.

As none of the cited art, individually or in combination, disclose or suggest at least the above-noted features of independent claim 1, Applicant submits the inventions defined by claim 1, and all claims depending therefrom, are not rendered obvious by the asserted references for at least the reasons stated above.

MPEP 2141 notes that prior art is not limited just to the references being applied, but includes the understanding of one of ordinary skill in the art. MPEP 2141 further notes that the prior art reference (or references when combined) need not teach or suggest all the claim limitations. However, an obviousness-type rejection must explain why the difference(s) between the prior art and the claimed invention would have been obvious to one of ordinary skill in the art. MPEP 2141 goes on to list exemplary rationales that may support a conclusion of obviousness. However, Applicant submits that the Official Action and the applied references

present no objective evidence that would support an obviousness-type rejection of Applicant's amended claims based on one of these exemplary rationales.


**CONCLUSION**

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Michael E. Monaco, Reg. No. 52,041, at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§ 1.16 or 1.147; particularly, extension of time fees.

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Respectfully submitted,

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